Advanced Systems and Concepts Strategic Plan 2006

Innovative Solutions for the Warfighter

President's Management Agenda

- Human Capital
- Competitive Sourcing
- Financial management
- Expanded e-Government
- Budget and performance

SECDEF Four Year Goals

- Pursue Global War an Terrorism
- Defeat Improvised Explosive Devices
- Strengthen Combined/Joint Warfighting Capabilities
- Transform the Joint Force
- Intelligence Capabilities
- Transform DoD Management
- Focus on People
- Acquisition QDR

AT&L Goals

- High Performing, Agile and Ethical Workforce
- Strategic and Tactical Acquisition Excellence
- Focused Technology to Meet Warfighting Needs
- Cost-effective Joint Logistics Support for the Warfighter
- Reliable and Cost-effective Industrial Capabilities Sufficient to Meet Strategic Objectives
- Improved Governance and Decision Processes

DDR&E Goals

- Understand the warfighter's operational concepts and needs
- Invest in programs that can transition and meet critical warfighter needs
- Apply the unique skills and enterprise insights afforded Team Members to identify research investment areas
- Integrate combatant commander needs and Service requirements to define development priorities
- Coordinate and prioritize requirements, remaining constantly conscious of jointness and interoperability imperatives
- Lead the revitalization of technology intelligence to minimize the probability of technology surprise from adversaries

AS&C Goals

- Speed the discovery, development, and delivery of advanced technology and concepts for improved military capabilities
- Partner with DoD, Industry, and Coalition stakeholders to provide the best affordable capabilities to Joint and coalition warfighters
- Balance "try before you buy" demonstrations with "test to procure" initiatives
- Become a DoD Center of Excellence for operationalizing innovation

Our Combatant Commanders (CoComs) face an emerging strategic environment characterized by elusive, fast-adapting adversaries capable of gaining temporary operational advantage with creative tactics and technologies. Against such threats, our operational commanders and the soldiers, sailors, airmen, and marines who serve with them, cannot ensure successful mission accomplishment relying on past products, processes, and systems. They also cannot achieve the results our Nation expects of them on the promises of capabilities to come. The CoComs have one primary job—to successfully accomplish the missions assigned to them today.

Advanced Systems and Concepts' (AS&C's) Strategic Plan defines what we are doing to ensure joint warfighters have the options and tools required to perform successfully. This plan also outlines our performance goals, desired outcomes, and oversight strategies that we will use to accomplish our job. These goals are in line with the President's Management Agenda, SECDEF's Four Year Goals, AT&L's Goals and DDR&E's goals as displayed on the opposite page.

It has been ten years since AS&C was created and first demonstrated the ability to rapidly accelerate the technology development cycle and actually field useable operational, "go to war" prototypes to satisfy a critical operational customer need. That complex system, the Predator unmanned aerial vehicle, was one of the first successful technology transition programs overseen by AS&C and continues to provide a critical capability for today and the future. But the world has changed dramatically since the Predator concept was first developed. The previous well-defined Warsaw Pact threat has been superseded by an asymmetric threat that covers the entire span of military and other contingency operations. DoD missions must address a spectrum of diverse activities that have either a direct or indirect impact on our National Security, ranging from regional conflicts to the Global War On Terrorism; and from Homeland Defense to large-scale humanitarian assistance and relief efforts. Additionally, most of these operational missions are conducted in concert with coalition partners in a multi-national force environment.

To help our CoComs meet their diverse and ever-changing suite of operational mission needs, we must be flexible and responsive, agile and adaptive, and creative and innovative. AS&C is strategically positioned in the Department to advocate for the customer, facilitate and accelerate technology transition, and terminate those efforts that do not prove viable.

Real Solutions for Real Needs

Ms. Sue Payton

Deputy Undersecretary of Defense, Advanced Systems & Concepts

United States Department of Defense
Washington D.C.

MISSION

To Find, Demonstrate, Transition, and Transfer the Best Operational Concepts and Technology Solutions for Transformational, Joint, and Coalition Warfare Problems

VISION

Accelerating Cutting-Edge Technologies and Operational Concepts into Fielded Capabilities

GOALS

- Speed the discovery, development, and delivery of advanced technology and concepts for improved military capabilities
- Partner with DoD, Industry, and Coalition stakeholders to provide the best affordable capabilities to Joint and Coalition warfighters
- Balance "try before you buy" demonstrations with "test to procure" initiatives
- Become a DoD Center of Excellence for operationalizing innovation

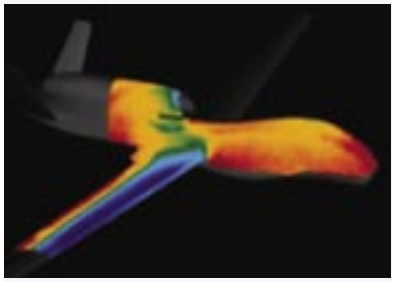
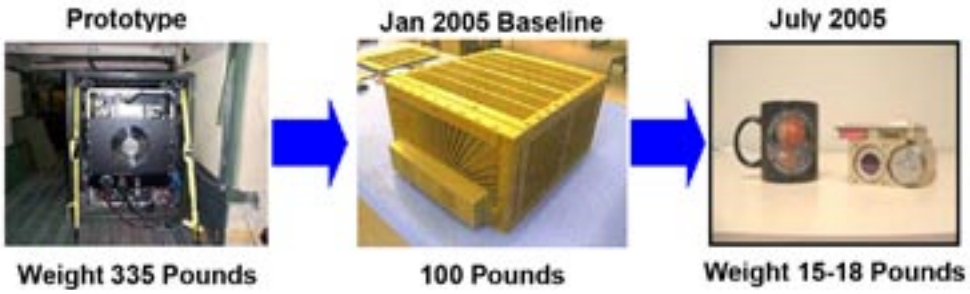


Image of Global Hawk UAV model with pressure-sensitive paint, showing pressure distribution in wind tunnel. Discovery of this paint increased performance and avoided a costly duplication of effort.

STRATEGIC OBJECTIVES

- Enhance Combatant Commander options for integrated acquisition and employment of military capabilities
- Operationalize innovative solutions for the warfighter from government, commercial, and academic technology providers – domestic and coalition – in the 1 to 4 year delivery window
- Encourage efficient technology transition between the military and commercial market sectors
- Reach out through a holistic approach to find the best operational concepts and technology solutions

Making the Transformational the Ordinary



The Spray Cool Counter Targeting System from the Defense Acquisition Challenge program provides weight and volume savings over traditional air-cooled systems, allowing operation of the counter targeting system in harsh environments.

Biometrics tool from Human Intelligence and Counter-intelligence Support Tools (HICST) ACTD screens for insurgents.

OUR PHILOSOPHY

We seek and provide the best value technical and operational concept solutions from defense, industry, and academic sources. Within the Office of Defense Research and Engineering (O,DDR&E), AS&C is focused on the establishment of an agile, CoCoM-oriented solutions process that is responsive to joint warfighting needs. Innovative concepts and technologies must be adopted and fielded in a timely manner for them to be useful to the warfighter. This is why ***Technology Transition*** is our primary focus.

We believe that a successful technology transition strategy requires continuous communication with the Services, Defense Agencies and our joint and coalition partners as well as a willingness to negotiate requirements, resources and technical capabilities. Customer satisfaction is critical in achieving our goals, and we ensure our customers are our first priority when seeking opportunities for increased warfighting capabilities. If we have done our job well, the warfighter will have a new sustainable capability that enhances job performance and affordability.

TECHNOLOGY TRANSITION

Technology Transition is everyone's business and the business of transition is not easy. The first step in advancing technology transition is identification of a military idea. Proposals for how to meet that need can come from either the customer or the technologist depending on whether the new concept is a technology "push" or a customer "pull." If a new technology is to be "pushed" it must be timely, relevant, affordable and effective. If the innovation is a "pull," the user must be able to explain the problem in a way that can be understood by the community striving to meet the need. The proposal must be understandable and demonstrable in order to be successful.

The second step in technology transition is ***oversight.*** In this step, AS&C provides oversight for a forward-leaning, diverse group of concepts and technology transition programs in the Department of Defense (DoD). Effective oversight begins before program initiation. We forge strategic partnerships between the Services, DoD and non-DoD government entities, the Congress, industry, and Coalition defense agencies implementing the processes necessary to ensure a successful outcome.

The third step in technology transition is a ***commitment*** by all the stakeholders to a plan prior to, and during, execution. AS&C works with its stakeholders to develop flexible plans with clear lines of authority, responsibilities, and resources. We ensure program goals are relevant and measurable, contain realistic costs and schedule estimates, and include performance metrics that are demonstrable and relate directly to the needs of the customer. Strong oversight of these elements and strong commitments by all stakeholders facilitate timely, successful transitions

For technology transition to be effective, all of these elements must be done thoroughly and cooperatively. Although difficult at times, technology transition is a win-win endeavor gaining needed capabilities for the customer and best use of technology investments.

OUR APPROACH

AS&C employs many of the disciplines found in the balanced scorecard approach to management. This approach enables us to clarify our vision and strategy and better translate them into action. This balanced scorecard approach provides for better connection with our customers and strategic partners to create successful

opportunities that add warfighter value. In short—balancing customer requirements, available resources, and technical capabilities over a realistic timeline with strong partners allows us to make the vision a reality.

Our resource management approach includes a sound, responsible investment strategy resting on three pillars - integrity, accountability, and prioritization:

Integrity— The overriding emphasis on integrity for an investment strategy and the ethical handling of resources is essential, especially in the public sector where government agencies are entrusted with the taxpayers' dollars. Integrity and ethical behavior by each member of the organization can be summed up by a philosophy of "do the right thing." Simply staying within the boundaries of the law is not sufficient. Those put in a position of trust over taxpayers' funds must also avoid the perception of unethical behavior.

Accountability— Holding ourselves and others accountable for decisions and actions is the basis of sound management and leadership. From an investment perspective, it means establishing appropriate oversight up and down the chain of command, and creating appropriate checks and balances that can effectively highlight flaws in the resource process before they become critical. AS&C has built-in organizational levels of resource oversight with specific and regular reporting requirements that achieve this goal.

Prioritization— Key signs of a healthy resource investment strategy are established mechanisms and processes that allow for timely and effective investment and divestment trade-off decisions between competing interests. Key milestones for technical capability achievement are tied to customer satisfaction to allow for continuous evaluation of progress toward established goals.

These three processes are the bedrock of a sound, responsible investment strategy and ensure the overall effectiveness of our organization.

OUR PROGRAMS

AS&C is uniquely situated in O,DDR&E and oversees a variety of programs across the spectrum of technology readiness levels and acquisition stages to rapidly satisfy customer needs faster. Our programs offer a range of tools from acceleration of technology insertion to transfer of proven technology directly into the hands of the user. Figures 1 and 2 illustrate the diversity and extensive nature of our programs. These programs span technology maturity from application of applied research to commercial-off-the-shelf products and improve our warfighters capabilities in force protection, battlespace awareness, command and control, force application, focused logistics and network centric operations. Terms used in Figure 1 are explained in the key that follows.

FISCAL YEAR 2006

Direct Oversight Resources
$325M

Total Proposals Received
782

Proposals Funded
56

327 New and Ongoing Projects creating partnerships with

- 9 Combatant Commands and US Forces Korea
- Army, Navy, Air Force and Marine Corps
- Hundreds of Industry partners both domestic and foreign
- Dozens of Coalition nations
- Defense and Federal Agencies including
  - DISA
  - NGA
  - NASA
  - DHS
  - MDA
  - NRO
  - NSA
  - DIA
  - DARPA
- Universities

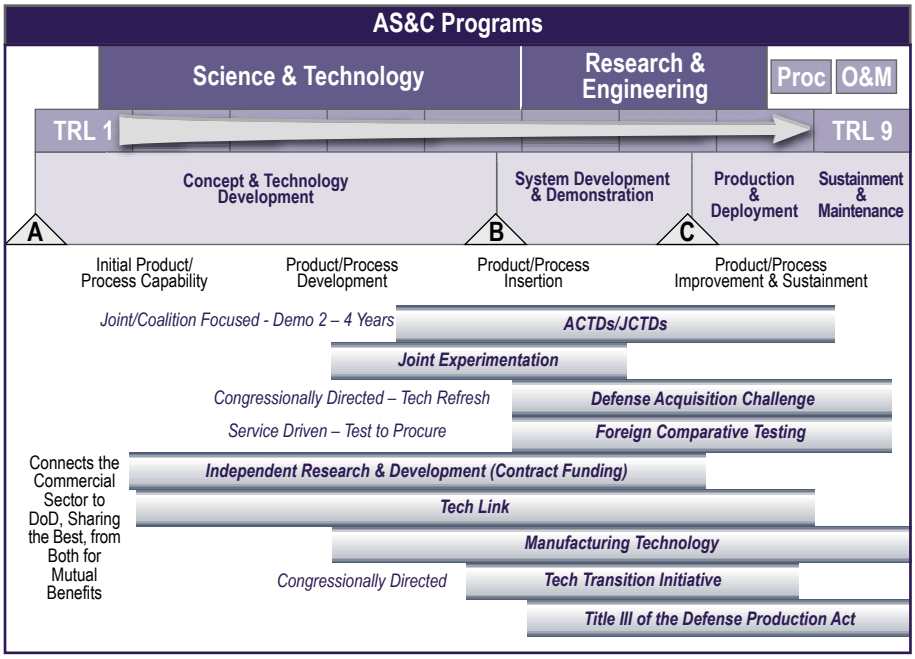


Figure 1: AS&C Programs

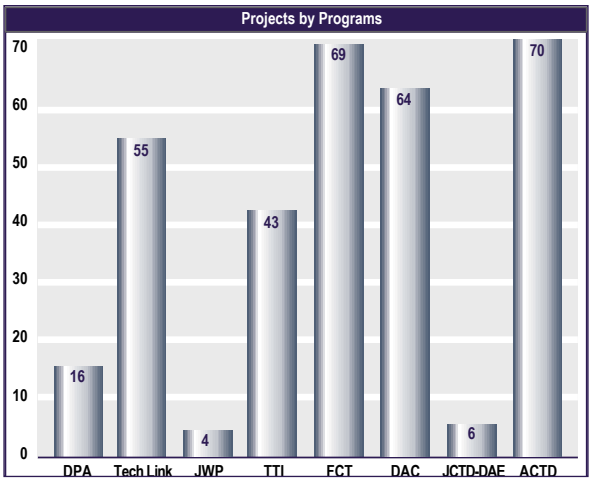


Figure 2: Projects by Programs

Key:

Fiscal Accounting classifications: 6.1 Basic Research, 6.2 Applied Research, 6.3 Advanced Technology Development, 6.4 Advanced Component Development and Prototypes, 6.5 System Development and Demonstration, 6.6. RDT&E Management Support, 6.7 Operational System Development PROC – Procurement, O&M – Operations and Maintenance

Technology Readiness Levels (TRL): Technology maturity as it relates to the DoD Acquisition Management Framework is reflected by the use of technology Readiness Levels from 1 to 9.

Stages of Acquisition: The DoD Acquisition Process is divided into four stages, punctuated by Milestone Decision points. A Milestone A decision is made to begin Concept and Technology Development followed by a Milestone B decision to continue with System Development and Demonstration and finally, a Milestone C decision is made to move to Full Production and Deployment. The final stage of acquisition is Sustainment and Maintenance.

Leveraging the wide array of programs within AS&C to benefit the customer requires a team approach. By working together, we are able to employ innovative strategies to solve problems and provide the best value solutions to the customer. Everyone on our team is committed to the mission and ready for the challenges that lay ahead.

STRATEGIC OBJECTIVES

- **Enhance Combatant Commander options for integrated acquisition and employment of core military capabilities**
- Operationalize innovative solutions from government, commercial and academic technology providers – domestic and coalition – in the 1 to 4 year delivery window"
- Encourage efficient technology transition between the military and commercial market sectors
- Maintain an ecumenical approach to finding the best operational concepts and technology solutions

The Department of Defense initiated the **Advanced Concept Technology Demonstration** (ACTD) program in 1995 to get new technology into the hands of the warfighter as quickly as possible. Eighteen months later, the Predator unmanned aerial vehicle (UAV) was operationally employed and within thirty-six months the Global Hawk UAV was flying. By late 2001 and early 2002, products from some 30 ACTDs were deployed in support of Operation Enduring Freedom in Afghanistan and Operation Noble Eagle in the United States. By the beginning of 2005, products and concepts from over 54 ACTDs had been deployed to support Operations Enduring Freedom, Iraqi Freedom, and Noble Eagle, as well as the Global War on Terrorism (GWOT).

Beginning in FY 2006, a new business process will be initiated that will take the successful ACTD program and update it to meet the Department's transformational goal of becoming capability- vice threat-based in its focus. The new business process will be referred to as **Joint Capabilities Technology Demonstrations** (JCTDs). JCTDs will include many of the positive aspects of the ACTD program, but will be revamped to meet the defense challenges of the 21st century. We envision a three to five year transition period from the current ACTD process to the improved JCTD process. Eventually, JCTDs will replace ACTDs, providing an even faster process that focuses on joint and transformational technologies that are initiated in Science and Technology (S&T) and carried through the difficult transition stage, sometimes referred to as the "S&T valley of death." The new JCTD business model includes procurement funding to support the program objective of taking a limited number of "joint peculiar" JCTDs past Milestone B, through engineering and development, and into procurement, followed by initial sustainment---a "cradle to grave" approach. In addition, AS&C has established a Special Capabilities Office to assist in the insertion of classified technologies for use in the Global War on Terrorism, intelligence problems, and other complex mission areas. The Special Capabilities Office works across program and agency boundaries to establish consortiums capable of quickly addressing difficult problem sets.

ACTD/JCTDs enjoy strong support from the CoComs who are the principal customers and the Congress which values financial partnering and shorter acquisition life cycles. The CoComs view ACTDs as concept or technology incubators designed to enhance joint capabilities and provide a swifter path to capability solutions than the conventional acquisition processes. CoComs also view ACTDs as an empowerment tool to clearly express their joint needs in a Planning, Programming, Budgeting and Execution (PPBE) System that necessarily emphasizes Service-sponsored, core military capabilities. Today's ACTD/JCTD program aims to further improve its effectiveness and relevancy by aligning itself with the Joint Capabilities Interoperability Development System (JCIDS) and seeking to enhance CoCom inputs into the JCIDS process. The JCTD program will concentrate resources on projects originating as "needs pull", i.e., designed to customer needs, instead of "technology push" demonstrations. As always, there will be a continued emphasis on transitioning "try before you buy" demonstration-proven, innovative technologies, concepts and

"…while flying just 3 percent of the intelligence, surveillance, and reconnaissance missions in Operation Iraqi Freedom, Global Hawk generated 55 percent of the time-critical targets against enemy air defenses – GAO.

80% solutions into programs of record for sustainment of "go to war" residuals and rapid acquisition and fielding of production models.

ACTD/JCTD

PERFORMANCE GOALS	DESIRED OUTCOMES
• Rapidly address key Joint and Coalition CoCom needs with advanced concepts and technology solutions using Advanced Concept and Joint Capabilities Technology Demonstrations (ACTDs and JCTDs) • Increase the ability of mid-and senior-level personnel to respond to emerging warfighter needs, by providing better understanding of (1) application of streamlined acquisition, (2) rapid application of technology, (3) joint and coalition warfighter needs, (4) resources and (5) technical capability	• Decreased time for fielding operational warfighter products and innovativel new concepts that satisfy emerging warfighter needs • Enhanced combat capability through rapid improvement of joint and coalition weapon systems and interoperability • Well-informed DoD workforce with the ability to rapidly identify applications for technology to fill emerging war fighter needs

ACTD/JCTD STRATEGIES

- Establish an understanding of warfighter roles, missions and needs; listen to the customer; propose viable options for solutions; execute oversight of programs and transitions
- Apply a streamlined, focused, "try before you buy" strategy (ACTDs/JCTDs) to rapidly field operationally relevant technology and/or innovative concepts that provide 80% solutions to meet emerging warfighter needs
- Through industry and lab outreach, search for innovative concepts and technologies that fill joint and coalition warfighting needs or provide new capabilities to the joint force
- Build teams to achieve desired results – create partnerships between Combatant Command customers, Military Services, and technology providers
- Pursue both user needs "pull" and technical opportunity "push" options
- Facilitate exchange of new ideas and concepts to and from industry, the DoD, and our coalition partners

STRATEGIC OBJECTIVES

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The Comparative Testing Office (CTO) partners with a diverse group of DoD entities. These organizations range from:

- Science and Technology (S&T) community (basic to applied research) to Logistics
- Commercial industry from large defense contractors to small business
- Foreign governments and industry.

These close partnerships have paid huge dividends in solving pressing warfighter problems quickly, innovatively, and cost-effectively. Since 1980, based on a "test to procure" guideline, the CTO office has invested $930 million to produce a DoD cost avoidance of over $6.1 billion. CTO's win-win partnering is making a positive difference on the war on terror.

UK system can refuel two aircraft at once, saved $40 million in R&D.

The **Foreign Comparative Testing (FCT) Program** tests and evaluates foreign non-developmental defense equipment to determine whether it can satisfy specific needs of the U.S. military. The program leverages developed technologies for economic and quick buys providing U.S. forces with timely, new capabilities. The technologies are assessed for use, procured by the Military Services and Special Operations Command, and integrated into U.S. weapon systems. To date, more than 20 countries with vendor partnerships in 27 states have participated in the program.

The **Defense Acquisition Challenge (DAC) Program, established in 2003,** provides companies, individuals, and DoD acquisition programs an avenue for increased introduction of innovative and cost-saving technologies. DAC provides an "on-ramp" for any person or activity within or outside the DoD to propose technologies and products at the component, subcomponent, or system level that has the potential to benefit a current acquisition program of record. DAC provides funds to the program of record for the test and evaluation of the proposed technology or product to determine if the technology or product meets the program's requirements. DAC allows anyone to propose innovations that quickly improve a program's affordability, manufacturability, performance, or capabilities. Annual announcements are made in Federal Business Opportunities via a broad area announcement (BAA). Submitted proposals are called "challenge proposals" and are evaluated for merit and feasibility. If selected, proposals are funded for testing and if successful, innovations are inserted into a program of record.

COMPARATIVE TESTING OFFICE (CTO)

PERFORMANCE GOALS	DESIRED OUTCOMES
• Enhance warfighter capabilities through improved effectiveness, survivability, force protection, and sustainability • Deliver improved and new operational capabilities to the warfighter by increasing opportunities for domestic companies to enter the acquisition process and by leveraging mature technologies and equipment of allied and friendly nations • Expand DoD industrial base through inclusion of non-traditional sources	• Accelerated acquisition process that lowers costs and technical risk • Enhanced use of world-class technology and equipment • Improved international armaments cooperation • Enhanced standardization and interoperability with our allies and coalition partners • New "on-ramps" for inserting technology and equipment into programs of record to include: – Best-in-class domestic and foreign technology and equipment – higher risk, cost-cutting "transformational" technology

COMPARATIVE TESTING OFFICE STRATEGIES

- Apply a disciplined approach to submission, evaluation and selection of proposals to ensure procurement
- Require the Military Services and Special Operations Command to prioritize their needs and commit to transition – every proposal should have a customer
- Improve outreach to CoComs by assessing their joint capabilities needs and implementing a pilot process to allow them to participate through submission and evaluation of project proposals
- Pursue multi-faceted process for innovative discovery and analysis of commercial market application
- Pursue pro-active acquisition community support and awareness program for transition to programs of record

STRATEGIC OBJECTIVES

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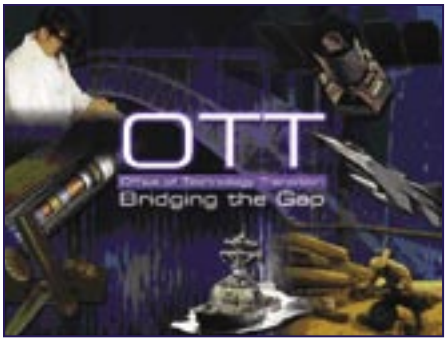
- Operationalize innovative solutions from government, commercial and academic technology providers – domestic and coalition – in the 1 to 4 year delivery window"
- **Encourage efficient technology transition between the military and commercial market sectors**
- Maintain an ecumenical approach to finding the best operational concepts and technology solutions



The Office of Technology Transition (OTT) is diverse and comprehensive in its coverage support of AS&C's goal for transitioning technology to and from the military and commercial market sectors. OTT's seven programs focus on getting the best technology in the hands of the warfighter regardless of its origin.

The **Technology Transition Initiative (TTI)** helps technologies bridge the "valley of death" that occurs when technology is developed but left "on the laboratory shelf" due to funding shortfalls or the lack of knowledge that the technology exists. TTI offers a limited budget to transition mature technologies from the DoD S&T base into programs of record. TTI assesses technology viability and accelerates transitions to acquisition programs of record or establishes a low rate of production items until full transition is achieved. The program solicits projects via an annual call for proposals to the DoD S&T base for technologies needing transition help. Proposals are evaluated and rank ordered against a standard set of criteria by the sponsor Service/Agency/CoCom, and also by the OTT.

Water purification pen used in Afghanistan, Iraq, and Tsunami relief, accelerated for use with help from TTI.

The DoD **Technology Transfer Program** provides a unique, noncompetitive avenue for DoD laboratories to work with private industry via various instruments, such as Cooperative Research and Development Agreements (CRADAs), to actively facilitate the transfer of intellectual property between the public and private sectors.

Tech Link facilitates and increases technology transfer from DoD to industry by informing commercial ventures of those DoD technologies that are ready for production and establishing partnerships between DoD labs and industry for technology licensing, cooperative R&D projects, and DoD-funded technology development. The Tech Link program enables production for military as well as commercial use. This important program facilitates cooperative research and development (R&D) between DoD and industry and is tied to academia through Montana State University that publicizes these partnerships to increase private sector awareness of DoD technology transfer opportunities. This program has attracted potential investors, R&D partners, and other business opportunities for featured companies. It has also been successful at strengthening small businesses through opportunities to participate.

Heli-lift basket allows transport of personnel and cargo where helicopters cannot land, now being commercially made.

Hooah Bar, a performance nutrition bar, invented by the Army, moved to industry by Tech Link.

The **North American Technology and Industrial Base Organization (NATIBO)** promotes cooperation between the governments of the United States and Canada in development of coordinated technology and industrial base policies and programs, including policies and programs that promote the integration of the defense and commercial industrial sector and the greater use of dual-use products and technologies. NATIBO encourages the interchange of technology and industrial base data between Canada and the U.S., the Military Services, other Government Agencies, and industry. The program enhances the national security of both nations by promoting the competitiveness of the North American technology and industrial base. NATIBO promotes a cost effective, healthy technology and industrial base that is responsive to the national and economic security needs of the United States and Canada.

The **Manufacturing Technology (MANTECH)** program improves the quality, productivity, technology, and practices of businesses and workers providing goods and services to the DoD. The program ensures that advanced manufacturing processes, techniques, and equipment are available for reducing DoD materiel acquisition, maintenance and repair costs. MANTECH plays an important role in accelerating the transition of emerging technologies from the laboratory to product application - a process vital to ensuring the DoD retains a warfighting edge. Speeding technology transition from the laboratories to acquisition systems also enables evolutionary acquisition and improves the health of the industrial base. Of benefit to industry, MANTECH sustains and enhances the skills and capabilities of the manufacturing workforce and promotes higher levels of worker education and training.

ManTech helped cut cost of Interceptor body armor, from $850 an armor plate to an average of $350.

(photo courtesy of The Washington Post)

The **Defense Production Act, Title III Program** is a unique tool employed by the Department for the purpose of encouraging commercial entities to create or expand new domestic sources of supply for advanced materials and technology items required to meet defense needs. Without U.S. government help, these sources would not be developed because they may not be cost effective; even though they are critical National Security technologies that need to remain in the United States. This program ensures critical technologies are produced in the U.S. that may not otherwise be produced. Title III authorities can be used to provide industry with a variety of incentives that reduce the risks associated with the capitalization and investments required to establish or expand the needed production capacity. These incentives include:

- purchases or purchase commitments to buy products of a critical technology
- the purchase or lease of advanced manufacturing equipment which can be installed in government or privately owned facilities
- the development of substitutes
- loans and loan guarantees

Laser protective eyewear enabled by DPA Title III program.

A key objective of the Title III Program is to accelerate

the transition of technologies from the research and development arena to affordable production and insertion into defense systems. This is often done by emphasizing products or processes that are appropriate to both defense and commercial markets. Title III initiatives focus on technology issues that support defense-wide applications.

The **Independent Research and Development (IR&D) Program** is one of the ways that DoD can leverage industry investments in R&D. We do this by communicating DoD's research and development needs to industry for the purpose of encouraging efforts in these areas. In turn, industry is allowed to recover a portion of R&D costs on projects. Communication is further increased through the use of an IR&D database where industries can provide information about their R&D efforts, and DoD program managers can view these projects for possible use in their programs. Although voluntary, most contractors provide R&D information because it helps industry publicize capabilities and allows DoD a view of industry expertise. Before initiating R&D in a DoD program, Defense Agencies must consider IR&D. This enables complementary efforts between DoD and industry, thereby reducing redundancy.

PERFORMANCE GOALS	DESIRED OUTCOMES
• Minimize gap between technical maturation and insertion of technology into a product (i.e., "valley of death") • Create economical, viable production capacities for key technologies to meet national defense needs • Leverage and insert industry research, development, testing, and evaluation (RDT&E) investment into defense programs • Significantly reduce the cost of weapons systems through the development and maturation of essential manufacturing processes and practices • Integrate DoD and industry processes for Technology Transition that makes technology available to both • Identify emerging capabilities and technologies that could be shared between the US and Canada	• Accelerated technology transition from Science & Technology to the warfighter • Increased availability of critical technology to meet defense requirements • Reduced DoD research and development investment through increased use of industry technology investment • Mature manufacturing processes that result in increased reliability, capability, affordability and quality • Increased availability of technology that meets critical DoD needs in a timely, effective, and efficient manner • Joint investment strategy with Canada in key defense technology focus areas

OFFICE OF TECHNOLOGY TRANSITION STRATEGIES

- Strengthen the linkage between DoD S&T and Acquisition communities and the warfighter
- Use Defense Production Act Title III authorities to work with Services, Agencies, and industry to identify critical technology production shortfalls and propose projects to meet those needs
- Promote direct access of labs, System Commands & CoComs to IR&D data and include IR&D information on the Research and Engineering (R&E) portal
- Seek industry input to and feedback on IR&D process/program via the IR&D Technical Coordination Group (TCG)
- Strengthen awareness and support for ManTech with senior leadership
- Ensure manufacturability and cost are driven into the early design process
- Maximize the flow of technology on-ramps and off-ramps by
  - integrating DoD technologies across the labs and Services for more effective use of developed technologies
  - providing commercial industrial capability to produce items incorporating DoD-developed/owned technologies
  - finding commercial sources for DoD needs
  - developing technologies for military and commercial applications
- Promote bi-lateral information exchange between US and Canadian Defense Departments

STRATEGIC OBJECTIVES

- Enhance Combatant Commander options for integrated acquisition and employment of core military capabilities
- Operationalize innovative solutions from government, commercial and academic technology providers – domestic and coalition – in the 1 to 4 year delivery window"
- Encourage efficient technology transition between the military and commercial market sectors
- **Maintain an ecumenical approach to finding the best operational concepts and technology solutions**

Joint

Joint and Coalition Operations Support (JCOS) provides leadership, management oversight, policy guidance, business process development and improvement, and horizontal integration of activities associated with agile acquisition, with emphasis on processes delivering joint and coalition capabilities to the major Combatant Commanders.

The JCOS Office collaboratively formulates strategic goals and coordinates agile acquisition alternatives to satisfy validated Defense needs for accelerated technology-based capabilities in the 1 to 4 year delivery window, including coordination with the Joint Staff Capabilities Planning (CBP) process and with Combatant Command customers. Coordination and horizontal integration activities include discovering synergies and synchronizing transition programs with AS&C oversight and those throughout the Department of Defense. Special effort is focused on addressing joint, coalition, and transformational warfighter needs. JCOS aims to facilitate efficient, timely transition of emergent technologies from Defense, commercial and academic providers – domestic and foreign – into relevant joint and coalition capabilities.

Coalition *(photo courtesy of gupshup.org)*

An important adjunct to JCOS responsibilities is fostering the use of joint experimentation as a means of focusing and accelerating capabilities from concept to fielded and sustained warfighting capability. Joint Experimentation is a pivotal tool for a diverse Defense user group including operational concept development, policy analyses, acquisition alternative assessment, training, and test and evaluation. Through direct resource direction of the Joint Warfighting Program and OSD oversight of Joint Forces Command's joint experimentation and prototyping programs, JCOS pursues strategies that:

- Balance joint experimentation investment across the range of Defense customers, with priority placed on Combatant Commander needs;
- Support joint experimentation as a cost-effective method of technology solution development and acceleration;
- Avoid redundant investment by encouraging commonality of modeling and simulation tools and environments;
- Seek opportunities to integrate Defense and coalition experimentation efforts; and
- Encourages multiple-user experiments as a means of unifying consensus and validation across the range of major customer groups .

JCOS also provides coordinating oversight of coalition activities within AS&C to prevent duplication of effort and ensure AS&C policy compliance with other DoD organizations. This coalition advocacy provides a portal for coalition involvement in AS&C programs as well as many other programs within the Defense agile acquisition segment.

JOINT COALITION OPERATIONS SUPPORT (JCOS)

PERFORMANCE GOALS	DESIRED OUTCOMES
• Develop and advocate integrated top-down, joint-born processes for joint capability acquisition & sustainment • Coordinate development of AS&C projects in response to specific validated customer needs, and integrate AS&C efforts across the wider agile acquisition sector • Speed delivery of tailored capabilities to CoCom customers with faster starting, faster spiraling solution processes • Expand opportunities for coalition involvement in AS&C technology transition programs • Improve coordination of joint experimentation user groups to avoid duplication of effort and derive widest benefit from resource expenditures	• Agile acquisition processes, especially those under direct AS&C oversight, provide Combatant Commanders and subordinated warfighters with tailored, responsive technology-based capability solutions • OSD(AT&L) and the Joint Staff effectively coordinate development, fielding, and sustainment of relevant solutions • Defense, commercial and academic Science & Technology sources have efficient paths to transition relevant and responsive products into procurement and sustainment • Small and non-traditional commercial providers have increased access for their solutions in Defense technology transition processes • Joint Experimentation equitably serves operational concept development, policy analyses, acquisition alternative assessment, training, and test and evaluation user groups; and places a priority on serving specific needs of Combatant Commanders

JCOS STRATEGIES

- Establish procedures and processes to link CoCoM, Services, and Defense Agency capability needs and shortfalls with the appropriate program in the DoD technology solutions suite
- Develop and oversee improved business processes within AS&C for program development, integration, and coordination. Oversee AS&C information management data collection and analysis system(s)
- Foster improved working relationships with other DDR&E, AT&L and OSD offices to enhance AS&C contributions to the overall mission of DoD
- Coordinate AS&C outreach efforts for cross-cutting Joint and Coalition technical initiatives and programs with the Joint Staff, CoCoMs, Coalition Partners, and other DoD Offices and Activities
- Provide management and resource oversight for CoCoM and Service joint warfighting and experimentation programs and initiatives

GLOSSARY OF TERMS

ACTD	Advanced Concept Technology Demonstration
AS&C	Advanced Systems and Concepts
C2	Command and Control
COCOMS	Combatant Commanders
CONOPS	Concept of Operations
CRADA	Cooperative Research and Development Agreement
CTO	Comparative Testing Office
DACP	Defense Acquisition Challenge Program
DARPA	Defense Advanced Research Projects Agency
DDR&E	Director, Defense Research and Engineering
DoD	Department of Defense
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities
FCB	Functional Capabilities Board
FCT	Foreign Comparative Testing
FY	Fiscal Year (beginning 1 October)
IPL	Integrated Priority List (of COCOMS)
IR&D	Independent Research and Development
JCOS	Joint Coalition and Operation Support
JCTD	Joint Capabilities Technology Demonstration
JMUA	Joint Military Utility Assessment
JROC	Joint Requirements Oversight Council
JWP	Joint Warfighting Program
MANTECH	Manufacturing Technology
MUA	Military Utility Assessment
OSD	Office of Secretary of Defense
OTT	Office of Technology Transition
PA&E	Program Analysis and Evaluation
SBIR	Small Business Innovative Research
TTI	Technology Transition Initiative

To Learn More About AS&C's Programs or to Contact One of Our Offices
Please Visit Our Website at: www.acq.osd.mil/asc/